



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Description

The Si21672D integrates two separate high-performance digital demodulators for the DVB-T/C, DVB-S2/S and DVB-S2X standards into a single compact package. Leveraging Silicon Labs' proven digital demodulation architecture, the Si21672D achieves excellent reception performance for each media while significantly minimizing front-end design complexity, cost, and power dissipation. Connecting the Si21672D to both a dual terrestrial/cable TV tuner, and a dual satellite tuner, results in a high-performance and cost optimized TV front-end solution.

The DVB-T and DVB-C, including ITU-T J.83 annex B, demodulators are enhanced versions of proven and broadly used Si2164/67/68/69 Silicon Labs devices.

The satellite reception allows demodulating widespread DVB-S, DIRECTV™ (DSS), DVB-S2, DIRECTV™ (AMC) legacy standards, and new Part II of DVB-S2 (S2X) satellite broadcast standard. A zero-IF interface (differential) allows for a seamless connection to market proven satellite silicon tuners. It also integrates two DiSEqC™ 2.0 LNB interfaces for satellite dish control and, for each satellite demodulator, an equalizer to compensate for echoes in long cable feeds from the LNB to the satellite tuner RF input.

The Si21672D offers an on-chip blind scanning algorithm for DVB-S/S2/S2X and DVB-C standards, as well as blind lock function.

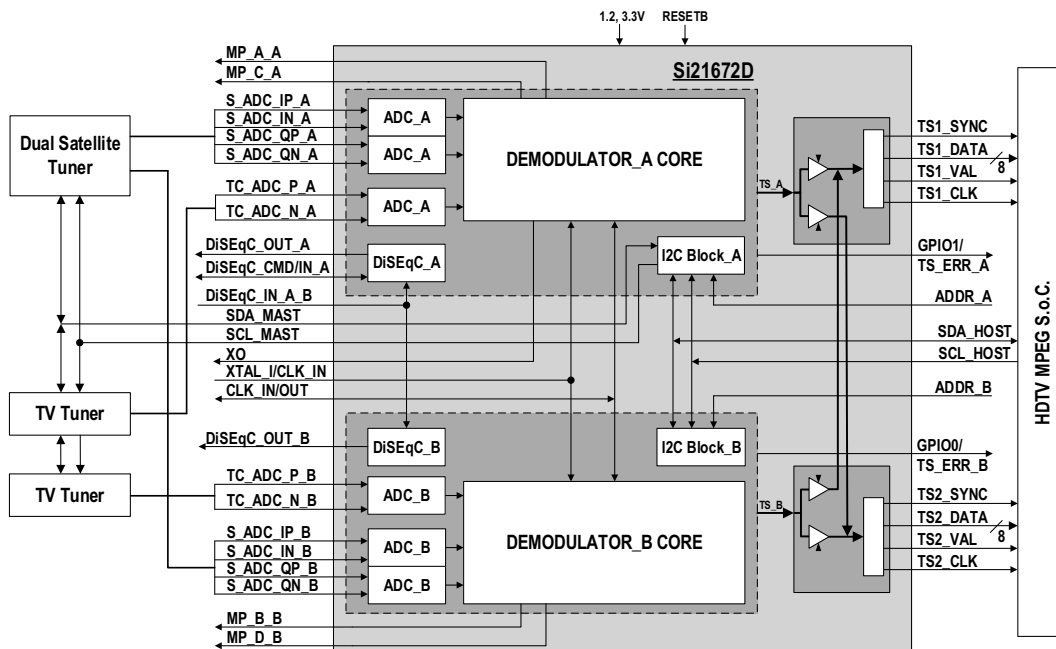
The Si21672D embeds two independent programmable transport stream interfaces which provide a flexible range of output modes, including a cross-bar functionality, and are fully compatible with all MPEG decoders or conditional access modules to support any customer application.

Features

- Pin-to-pin compatible with all dual demodulator family: Si216x2 and Si218x2
- API compatible with all single and all dual demodulators
- DVB-T (ETSI EN 300 744)
 - NorDig Unified 2.5, D-Book 8 compliant
- DVB-C (ETSI EN 300 429) / ITU-T J.83 Annex A/B/C
 - 1 to 7.2 MSymbol/s, C-Book compliant
- DVB-S2 (ETSI EN 302 307-1 V1.4.1)
 - QPSK/8PSK demodulator
- DVB-S2X (ETSI EN302 307-2 V1.1.1)
 - QPSK/8PSK, 8/16/32APSK demodulator
 - Roll-off factors from 0.05 to 0.35
 - Channel bonding for TS transmission supported
- DVB-S (ETSI EN 300 421) and DSS supported
- Dual DiSEqC™ 2.x interface, Unicable support
- 1 to 45 MSps for all satellite standards (<40 MSps in 32APSK)
- I²C serial bus interfaces (master and host)
- Upgradeable with firmware patch download via fast SPI or I²C (broadcast mode supported)
- Dual independent differential IF input for T/C tuners and differential ZIF I/Q inputs for satellite tuners
- GPIOs and multi-purpose ports (two per demodulator)
- Separate flexible TS interfaces with serial or parallel outputs and cross-bar feature
- Fast lock times for all standards
- Only two power supplies: 1.2 and 3.3 V
- 8x8 mm, QFN-68 pin package, Pb-free/RoHS compliant

Applications

- Multi-receiver iDTV: on-board or in a NIM
- Advanced multimedia PVR STBs
- PC-TV accessories
- PVR, DVD, and Blu-Ray disc recorders



Selected Electrical Specifications

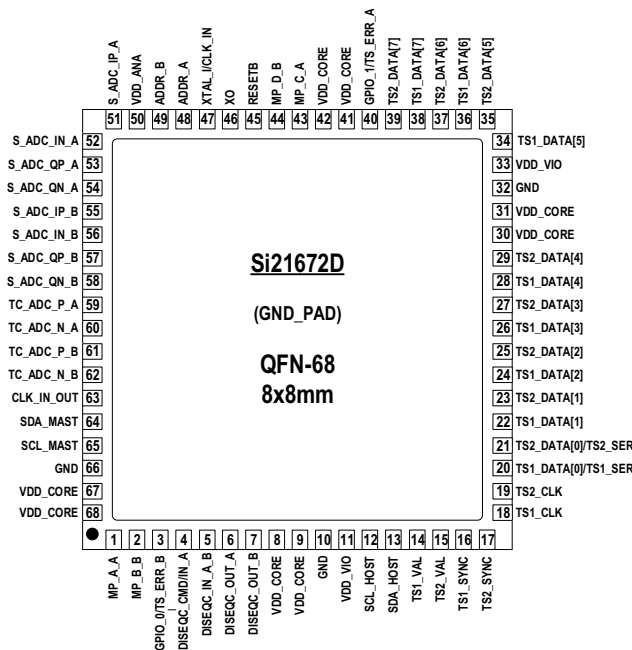
(T_A = -10 to 70 °C).

Parameter	Test Condition	Min	Typ	Max	Unit
General					
Input clock reference		4	—	30	MHz
Supported XTAL frequency		16	—	30	MHz
Total power consumption for each demodulator	DVB-T ¹	—	182	—	mW
	DVB-C ²	—	142	—	mW
	DVB-S2 ³	—	421	—	mW
	DVB-S ⁴	—	230	—	mW
Thermal resistance (θ _{JA})	4 layer PCB	—	42	—	°C/W
Power Supplies					
V _{DD_VCORE}		1.14	1.20	1.30	V
V _{DD_VANA}		3.00	3.30	3.60	V
V _{DD_VIO}		3.00	3.30	3.60	V

Notes:

1. Test conditions: 8 MHz, 8K FFT, 64-QAM, parallel TS.
2. Test conditions: 6.9 Mbaud, 256-QAM, parallel TS.
3. Test conditions: 32 Mbaud, CR = 3/5, 8PSK, pilots On, parallel TS, C/N at picture failure.
4. Test conditions: 30 Mbaud, CR = 7/8, parallel TS, at QEF: BER = 2 x 10⁻⁴.

Pin Assignments



Selection Guide

Part #	Description
Si21672-D60-GM/R	Dual Digital TV Demodulator for DVB-S2/S2X/T/C/S, 8x8 mm QFN-68